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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/051,460	01/22/2002	John Fox	09850-013001	2845

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EXAMINER

SAYOC, EMMANUEL

ART UNIT	PAPER NUMBER
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3746

DATE MAILED: 03/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

6293756

Office Action Summary

Application No.

10/051,460

Applicant(s)

FOX ET AL.

Examiner

Emmanuel Sayoc

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-10, and 15-17 is/are rejected.
- 7) ☒ Claim(s) 5 and 11-14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4-6, 8.
- 4) ☒ Interview Summary (PTO-413) Paper No(s) 11.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. Examiner recommends that the title capture some structure of the claimed invention such as the actuating mechanism, the adjustable piston strokes, the axially movable flywheel, or the variant piston cylinder volumes and strokes.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 6-8, 10, 15, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Forster (US 4,449,444).

In Figure 1, Forster discloses an axial piston pump comprising a swash plate actuating mechanism (34, 36), and a plurality of piston cylinders (21, 26) arranged radially about the actuating mechanism (34,36), and coupled to the actuating mechanism (34, 36). The first cylinder (21) has a working volume that differs from the working volume of the second cylinder (26).

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With respect to claim 2, a first piston (19) and a second piston (25) are housed in first cylinder (21) and a second cylinder (26) respectively. The first cylinder (21) has a smaller stroke than the second cylinder (26).

With respect to claims 6 and 7, the first cylinder (21) has a dimension defining an inner volume that differs from a corresponding dimension of the second cylinder (26). The dimension is the inner diameter of the cylinders.

With respect to claim 8, at least 4 cylinders are shown in Figure 1.

With respect to claim 10, the actuating mechanism comprises a transition arm (42 or 49) coupled to a stationary support (housings 45, 46, and 47) and a rotary member (semi spherical components of 34, 36).

With respect to claim 15, the actuating mechanism (34, 36) is centrally located about a central axis of the pump.

Claim 16 is rejected based on the structure outlined above.

With respect to claim 17, the Forster pump inherently anticipates the claimed method. The swash-plate is divided into two sections. A first section (34) independently adjusts the stroke of pistons (19) and a second section independently adjusts the stroke of pistons (25). This stroke adjustment adjusts the volume of pumped fluid. In the device, it is inherent that the different diameters of pistons (19, 25) were selected to bring about a varying volume of pumped fluid during pump operation. Since the cylinder strokes are precisely adjusted and the working volumes of the cylinders are known, the pumped fluid is metered and flow is quantified.

4. Claims 1-3, 8, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Tsai (US 5,049,799).

In Figure 1, Tsai discloses a hydraulic motor comprising a swash-plate actuating mechanism (28), and a plurality of piston cylinders (3 shown in figure) arranged radially about the actuating mechanism (28), and coupled to the actuating mechanism (28). The first cylinder (of piston 36) has a working volume that differs from the working volume of the second cylinder (of piston 18).

With respect to claim 2, a first piston (36) and a second piston (18) are housed a first cylinders and a second cylinder respectively (shown in figure). The first cylinder has a different stroke than the second cylinder.

With respect to claim 3, the first cylinder (of piston 36) is spaced from the actuating mechanism (28) a distance that differs from the spacing of the second cylinder (of piston 18) from the actuating mechanism (28).

With respect to claim 4, the tilt angle of the swash-plate (28), and therefore the spacing of the cylinder from the actuating mechanism (28), is adjusted by a displacement adjustment means (34, 36).

With respect to claims 8 and 9, at least 4 cylinders are shown in Figure 1, each having a working volume that differs from the other cylinders.

Allowable Subject Matter

5. Claims 5, and 11-14 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references are cited to further show the state of the art with respect to piston pumps.

U.S. Pat. 5,049,799 to Tsai et al.

U.S. Pat. 4,478,136 to Heiser et al.

U.S. Pat. 4,515,067 to Heyl et al.

U.S. Pat. 6,155,798 to Heiser et al.

U.S. Pat. 4,075,933 to Stephens

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Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Sayoc whose telephone number is (703) 305-0054.

The examiner can normally be reached on M-F 8 A.M. - 6 P.M..

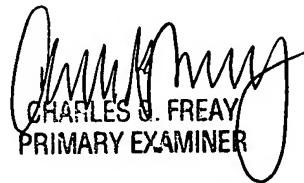
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Thorpe can be reached on (703) 308-0102. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.



Emmanuel Sayoc
Patent Examiner
Art Unit 3746

ECS
March 6, 2003



CHARLES J. FREAY
PRIMARY EXAMINER